

Mease Manor Retirement Community

Dunedin, Florida



Retirement facility implements chiller upgrades to reduce costs, increase energy efficiency and attract tech-savvy residents

As baby boomers begin to enter retirement communities across the country, facility directors are learning that this generation of residents is more discerning than ever. Mease Manor Retirement Community, in Dunedin, Florida, is a not-for-profit retirement community that has been serving residents for more than 50 years. To remain competitive, communities, such as Mease Manor, are adapting services and upgrading facilities to attract these more knowledgeable, educated seniors. All 400 sq. ft. rooms are being converted to 1,200 sq. ft. suites. Flat screens are becoming standard. Wi-Fi is made available to computer-savvy residents and their visiting families.

Technology is central to the retirement community transformation – a must-have for success in today's independent, assisted living and nursing home industry. And at Mease Manor, the application of the latest technology extends beyond the living room and into the mechanical room.

As the cost of electricity approached \$1 million annually, the facility reached out to multiple service providers – including the incumbent, Trane® – to replace forty-year-old HVAC equipment and identify ways to reduce consumption. After a comprehensive evaluation of all recommendations, Tom Roberts, Building Services Director, selected the innovative solutions offered by Johnson Controls. One of these solutions was engineering the new chiller to maximize its capacity, while ensuring that it was compatible with the existing electrical distribution equipment.



The installation of a YORK YMC² chiller is helping Mease Manor realize over \$100,000 in annual energy savings, achieve greater environmental sustainability, and provide a more comfortable and reliable environment for its residents.

“The strategic partnership has really grown between Johnson Controls and Mease Manor. They took the time to listen to us and to work with us and find the best solution for Mease Manor and our residents.”

TOM ROBERTS, BUILDING SERVICES DIRECTOR, MEASE MANOR

PROJECT SNAPSHOT

Square Feet: 300,000

Service Solutions:

- 390t YMC² chiller with OptiSpeed VSD and OptiView panel
- Also installed Metasys with CPO 10
 - Variable frequency drives on all pumps, isolation valves, etc.

Energy Savings:

- \$100,000+ per year

ROI:

- Planned simple payback: 36 months

Uncovering opportunities to create efficiencies

The Johnson Controls team conducted an analysis of operations at the 300,000 sq. ft. facility – including water, gas, electric and comfort cooling – and identified areas for improvement. In addition, Johnson Controls YORKcalc™ chiller plant energy-estimating software showed that, by making upgrades to its chiller plant, Mease Manor could save \$100,000 a year on energy costs.

With that road map in hand, the team replaced one of the facility's existing Trane chillers with a new 390t YORK® YMC² water-cooled magnetic centrifugal chiller with an OptiSpeed™ variable-speed drive (VSD) and OptiView™ panel. The YMC² offers 10% better efficiency than conventional, variable-speed chillers and the VSD is designed to cut chiller energy use and carbon dioxide (CO₂) emissions by as much as 30% a year.

The team also installed the Metasys® building automation system with Central Plant Optimization™ 10 (CPO 10). CPO 10 leverages standard algorithms and programs that are inherent in Metasys to maximize a facility's HVAC system and equipment performance by selecting the most efficient combination of pumps, chillers and cooling towers needed to meet building cooling load. A plant utilizing CPO 10 can operate up to 15% more efficiently than the same plant that uses a standard automation approach.

Positioning itself to gain a competitive advantage

By partnering with Johnson Controls, Mease Manor is saving energy, lowering operational costs and better positioning itself to attract today's more selective retirement community residents. While YORKcalc showed that, by making upgrades to its chiller plant, Mease Manor could save \$100,000 a year on energy costs, the actual savings have been more dramatic with the return on investment projected to be less than three years. Plus, the variable-speed drives – which reduce chiller CO₂ emissions by as much as 30% – support Mease Manor's goal to become a more sustainable retirement community and may help to attract environmentally conscious residents.

Inspiring a goal to create even greater efficiencies

As a result of the upgrade project, Johnson Controls was asked to design mechanicals for a new, 7,500 sq. ft. administration building on the Mease Manor campus. Johnson Controls was also awarded a Planned Service Agreement (PSA) for both the new YORK chiller and the remaining Trane unit which will eventually be replaced with a more efficient YORK model. It will include heat recovery capabilities and reduce consumption of natural gas in the hot water heat exchangers.

Johnson Controls is also working with Mease Manor to develop a kiosk that will help its retirement community residents see, in real-time, the impact of their facility's energy-saving initiatives. By tracking the facility's progress toward Leadership in Energy and Environmental Design (LEED®) certification from the U.S. Green Building Council, Tom Roberts, Building Services Director at Mease Manor, hopes residents will be engaged and encouraged to adopt energy-saving habits.

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